

June 29, 1947.

Dr. A.D. Hershey,
Washington University School of Medicine,
St. Louis, Missouri.

Dear Dr. Hershey-

A plethora of rumors has been reaching us here concerning your recent advances in virus genetics. We have been pushing the genetics of *E. coli* along similar lines, as you may hear from your colleagues who attended the Cold Spring Harbor Symposium. There seems to be rather clearcut evidence of simple linkage, with linear order and crossing-over in the traditional sense, although there is but a single group for the 16 or so factors so far studied. We should like to hear what your results have been; the word-of-mouth reports have been rather vague and contradictory.

However, I am writing you mainly to ask a considerable favor. Although we have never been able to separate transforming factors from our K-12 *coli* mutants, and the genetic structure of their recombination system would seem to reject a transformational interpretation, it would be necessary to make a closer study of a transforming system, particularly with respect to the behavior of several different factor differences, in order to make a valid comparison with K-12. We have been working with Boivin's *coli* strains S1a and S2, and have succeeded in transforming an anaerogenic mutant to an aerogenic type, using sterile extracts, etc. We have also succeeded in putting in some biochemical mutant markers, but it would be exceedingly useful to be able to use some virus resistance mutant markers.

My tests with my rather poor stocks of T1 through T7 gave no indication that either of these strains was susceptible. I wonder if you would be willing to test some of the other phages that you may have on hand for their potency on these strains, and to provide some, if any, which may prove to be active. Phage resistance proved to be an exceedingly useful marker with K-12 because it could be scored in a single streak along with sugra fermentations, on EMB agar, for example, and allowed the collection of much more data than would have been possible using nutritional markers only. I should therefore be very grateful for your cooperation in this respect.

I am taking the liberty of sending the strains along in separate cover. Sol asked for copies of them, and it would be most convenient if you could transmit them.

Yours sincerely,

Joshua Lederberg.